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ABSTRACT

A study examined the effect of direct instruction on increasing students' reading competency. The study followed several studies done between 1977 and 1995 on the Direct Instruction Model for reading instruction, developed and implemented in the 1960s. The population of the 2-year study included 105 southwest Chicago area third-grade students from a low socioeconomic background. Two random samples of 30 students were selected from the 2 identified populations of Direct Instruction (DI) and Non-Direct Instruction (traditional basal reading program) and were classified as the experimental and the control groups. The DI group's Iowa Test of Basic Skills (ITBS) results from 1993 were compared to the results from 1995. The basal program group's results from the 1992 ITBS were compared to the results from 1993. Results indicated that there was a significant change in the gains of the raw score in 9 of the 10 reading achievement categories for the Direct Instruction group. Further research is recommended in all areas of direct instruction. (Contains 21 references.) (CR)

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THE EFFECTIVENESS OF DIRECT INSTRUCTION ON THE VARIOUS READING ACHIEVEMENT CATEGORIES

SHERYL WROBEL

One large study that was completed in the 1970's was the largest educational study ever done, costing $600 million, and covering 79,000 children in 180 communities. This project examined a variety of programs and educational philosophies to learn how to improve the education of disadvantaged and at-risk students grades K - 3. This study, Project Follow Through, indicates that the program that achieved the best results in general was the Direct Instruction Model as concluded by Dr. Jones (1995), Weisberg and Weisberg (1988), Gersten and Carnine (1986), Stebbins (1977), and Becker and Engelmann (1978). Numerous studies were also conducted in the 1970's and 1980's which indicated that the Direct Instruction Model increased students' reading competency.

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With the ever increasing emphasis on raising students' basic skills test scores, educators are still looking for programs to help augment students achievement. Even though many studies have indicated that the Direct Instruction Model does increase a students' reading performance, there is still a controversy as to which reading program is the most effective.

Now that the Chicago School System is stepping in and mandating change to those schools who are considered to be on the "watch list", the need to examine the effectiveness of the Direct Instruction Program is even greater. These schools are now mandated by the Chicago Board of Education to use the DI program. Research in this area would help in the organization and implementation of the DI program in these schools.

As educators and administrators look forward towards the needs of students in the twenty-first century, a new emphasis is placed on finding a reading program

that will improve the reading abilities of disadvantaged students as well as all students.

President Lyndon Johnson launched an attack on poverty during his time in office. The major emphasis on poverty was an educational solution. In 1964 the Economic Opportunity Act (EOA) was passed. The EOA encouraged the establishment of educational programs and subsidized work-study arrangements.

However, the major educational assault on poverty was the Elementary and Secondary Education Act (ESEA) in 1965. One billion dollars was allocated for ESEA and these funds were used to pay for special programs for poor children. Title 1 was created under the auspices of ESEA and was the largest of the federal programs. Throughout the years, Title 1 underwent many changes, including the Education Consolidation and Improvement Act (ECIA) of 1981. Through ECIA, Title 1 was renamed Chapter 1. It was perceived that Chapter 1 programs would help break the cycle of poverty and low

academic performance by providing compensatory programs for disadvantaged students.

During the time that President Johnson was passing legislation to help foster the needs of the educationally deprived, Carl Bereiter was doing research of his own on the disadvantaged student. Bereiter was the founder of an experimental pre-school for the disadvantaged child at the University of Illinois in 1964. Carl Bereiter and Siegfried Englemann co-authored the Direct Instructional System (DISTAR). This program was developed as part of the compensatory education programs brought about by ESEA and it was selected by many federally funded Head Start Programs. DISTAR, is the registered trade name, but today it is simply referred to as Direct Instruction. The program is now based out of the University of Oregon.

Direct Instruction (DI) is defined as a method to teach generalizable skills and knowledge both efficiently and effectively. The University of Oregon Direct

Instruction Model offers several specific suggestions to teachers on how to increase academic-engaged time: allocating more time in the schedule, using choral responding, conducting work checks and increasing the use of guided practice (Engelmann, 1976).

Since the development of Direct Instruction and implementation in the 1960's, the controversary and debate still continues on whether or not DI improves reading achievement. There are many educators who believe using the DI approach is the key to increasing students' achievement among the educationally disadvantaged (Becker, 1973; Bowers, 1972; Hughes, 1972; Singer, 1973; Summerell & Brannegan, 1977). Then there are others who feel that DI does not have conclusive advantages over traditional programs (Kaufman, 1973; McCabe, 1974). Another study concluded that the scores of non-DI first grade students were higher than DI first grade students (Schwartz, 1974).

Another concern about the use of DI is the

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method used to implement the program. Some feel that with DI the teacher is always in control, always giving feedback, and constantly assessing the students' progress (Peterson, 1979). Further, Cazden (1983, cited in Gage 1989) concluded that DI "can only be implemented in an authoritarian, manipulative, bureaucratic system." However, Dr. Jones (1995), who reviewed Project Follow Through and authored the booklet "Educational Philosophies", concluded that teaching the "old fashioned way" was much more effective than other teaching philosophies such as "learning to learn" or "cognitive" education.

Due to the controversial research of DI, many educators continue to study the effects of the DI program. Parks (1988) examined the available data on the DI program and concluded that there was intellectual gain for students in the DI program. However, those students had twice as many delinquent acts as other students in other programs. The children in the DI group

also reported poor relationships with their families and lower expectations for educational attainment. This study is a review of literature available on DI as seen by one person. There are numerous studies that examined DI and had a conclusion with a different view.

Casazza (1995) researched the effects of using DI to teach summary writing in a college reading course. She concluded that writing through the DI model provided the students with a learning strategy that increases their comprehension and can be applied across the curriculum. Still another study , by Kuder in 1990 , examined the effectiveness of DI for students with Learning Disabilities. He concluded that students with Learning Disabilities taught with the DI method did not make significant gains over the students who were taught with a more traditional method. He did however, find that students with the DI program did make a greater gain in the word attack domain . These two studies do not solely address reading effectiveness of the DI pro

gram but they do address different areas of research concerning the DI method.

The largest nationwide study completed was Project- Follow Through. This study has been evaluated, reviewed , and written about by many educators and researchers. Weisberg and Weisberg (1988) concluded that "one model consistently raised the academic achievement of low-income children in grades K to 3 close to national norms on tests of reading, language and math and elevated their self-confidence." Gersten and Carnine (1986) concluded that the students in Follow Through programs have maintained their elementary school gains in comprehension through high school. Becker and Engelmann (1978) summarized that the DI program resulted in significant gains in reading, arithmetic, and spelling achievement. The students also showed an IQ gain of 8.55 to 9.1 points, as measured by the Slossan Intelligence Test. Dr. Jones (1995) reviewed the research from Project Follow Through and other rel-

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evant studies , such as the study by Gersten and Keating (1986) of the long term effect of DI . He concluded that "kids receiving DI were much more likely to graduate from high school and to be accepted into college and to show long term gains in reading, language, and math scores." Still another independent evaluation of Project Follow Through by Stebbins (1977), found DI "to be highly effective method for improving comprehension of low-income students in the primary grades. Students' performance on standardized comprehension tests was at or close to the national norm level."

Direct Instruction presents an image of authentic, intuitive instruction, where teachers consistently model for students the excitement of reading and all aspects of language, it is an image of students learning in a highly interactive situation, one where they experience consistent success, where they are provided with immediate feedback when they do experience problems. The research that has been completed over

the last three decades has demonstrated that the Direct Instruction Method of teaching reading does have a positive effect on students reading achievement.

With the search by educators to find programs to help students achieve higher in reading, and the ever continuing controversy over reading methods, the stress for a sort of synthesis - one that reflects the realities of classrooms, is ever growing. Researchers on the change process (Elmore and McLaughlin, 1988) state that school reform and school improvement are slow and evolutionary. This is also true of the research and the evaluation of reading methods.

Therefore the purpose of this study is to dtermine the effect of Direct Instruction on the various categories of reading achievement of the participating students.

POPULATION/SAMPLE:

The population of this study will include one hundred -five third grade students from Hearst Elemen-

tary School. This school, which has a grade range from pre-school to eighth grade, is a Chicago Public School located in the Southwest Chicago area. The students reside predominantly in this low socioeconomic neighborhood. Approximately, 99% of the population is African American.

For the purposes of this study a random sample of third grade students is selected. A random sample of thirty students are selected from 1994 - 1995 ITBS Individual Skills Analysis Results and compared to a random sample of thirty students from 1992-1993 ITBS Individual Skills Analysis Results.

Two samples , which had been randomly selected from the two identified populations of Direct Instruction and Non-Direct Instruction, were classified as the experimental and control groups, respectively. Both samples were administered the Iowa test. The duration of the study was two years. The post test control group design was used.

The findings will be tabulated in terms of means and standard deviation for each category in reading achievement of the ITBS. The means in each category represents the gains made in the raw score of each group. The t test will be employed at the .05 level of confidence to determine if there is any statistically significant difference between the mean scores.

FINDINGS:

The samples for the study included third grade students of Hearst Elementary School. Each spring students take the Iowa of Basic Skills (ITBS). From these third grade, two groups were randomly selected. The subjects in one group were given the Direct Instruction program in reading, while the other subjects in the other group were given the traditional Basal program in reading. In the Direct Instruction (DI) group, results from the 1993 ITBS were compared to the results from 1995 ITBS, and the gains in the raw score were calculated in each reading category. In the traditional Basal program group,

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results from 1992 ITBS were compared to the results of the 1993 ITBS, and the gains of the raw score was calculated in each reading category. Results from the 1993 and 1995 in the various categories of reading achievement were used as a post test. A t test ($p > .05$) for independent samples was done on the ten sets of scores to determine if there was a statistically significant gain in the ten reading achievement categories after a 2 year exposure to the Direct Instruction program. Table 1 summarizes the statistical analyses.

Table 1

Means, Standard Deviations, and t Tests for the Direct Instruction Group and the Traditional Basal Group for the 10 Categories of Reading Achievement Scores.

Category	Posttest	Traditional	Direct Instruct.	t
Reading Compreh.	M	13.0	13.9	**30.749
	SD	o.o1	0.16	
Construct Factual Meaning	M	2.8	3.1	**30. 580
	SD	0.02	0.05	

Category	Posttest	Traditional	Direct Instruct.	t
Construct Inferen. Meaning	M	7.9	8.7	**17.527
	SD	0.20	0.15	
Draw Conclusions	M	2.4	2.9	*2.635
	SD	0.30	0.09	
Infer Traits/Feel/ Motive	M	4.8	5.1	**8.796
	SD	0.18	0.05	
Predict Likely Outcomes	M	0.7	0.7	0.000
	SD	0.40	0.30	
Construct Evaluat. Meaning	M	2.3	2.2	**12.248
	SD	0.04	0.02	
Determine Main Idea	M	2.5	0.4	**24.457
	SD	0.27	0.38	
Author's Purpose	M	2.0	0.6	**20.457
	SD	0.27	0.26	
Interpret Nonliter. Language	M	1.4	1.3	**19.365
	SD	0.02	0.02	

df = 28

* Significant at the .05 level t test at .05 = 2.048

** Significant at the .001 level t test at .001 = 3.674

Table 1 indicates that there is statistical significance of the t scores in nine of the ten categories of reading achievement of the ITBS at the .05 level of the t test. Even more, the is statistical significance in eight of the ten categories of reading achievement of the ITBS at the .001

level of the t test. The category "Draw Conclusion" is only statistically significant at the .05 level of the t test. The category of "Predicting Likely Outcomes" is not statistically significant.

The t scores show that there is significant change in the gains of the raw score in nine of the reading achievement categories for the Direct Instruction group. The t score shows that there is no significant change in the category of "Predicts Likely Outcome" for the Direct Instruction group.

Overall, the data indicates that nine out of the ten categories in reading achievement reject the null hypothesis. The category of "Predicts Likely Outcomes" accepts the null hypothesis.

It is recommended that further studies be done on the different categories of reading achievement of different grade levels who have participated in the program for two years. It is not surprising that the results are statistically significant. As Becker and Engelmann (1978)

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noted that students given the DI program show significant gains in reading, math, and spelling achievement. Additional research is needed in all areas of Direct Instruction for the future prediction of the programs use by schools.

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